<u>REMARKS</u>

The Examiner is thanked for the performance of a thorough search. No claims are added or canceled and therefore claims 1-20 remain pending. The amendments to the claims and the new claims do not add any new matter to this application. All issues raised in the Office action mailed May 9, 2007 are addressed hereinafter.

I.   ISSUES NOT RELATING TO PRIOR ART

A.   SPECIFICATION

The Office action objected to the specification concerning references to various elements of FIG. 4. Replacement paragraphs [0070]-[0084] are included herein. Reconsideration is respectfully requested.

B.   CLAIMS 9, 10, 19, 20—35 U.S.C. § 112, SECOND PARAGRAPH

Claims 9, 10, 19, and 20 stand rejected under 35 U.S.C. § 112, second paragraph as allegedly indefinite. Claims 9, 10, 19 and 20 now recite "storing," which clearly sets the metes and bounds of the current invention. Reconsideration is respectfully requested.

C.   CLAIMS 9, 10—35 U.S.C. § 101

Claims 9 and 10 stand rejected under 35 U.S.C. § 101. Present claim 9 and 10 each recites "storing" and are directed to computer-readable media that store instructions. Thus, claims 9 and 10 are directed to articles of manufacture, which are statutory subject matter. Reconsideration is respectfully requested.

II.   ISSUES RELATING TO PRIOR ART

A.   CLAIMS 1-5, 9, 11-14—CAIN

Claims 1-5, 9, and 11-14 stand rejected under 35 U.S.C. § 102(e) as allegedly anticipated by *Cain*, U.S. Patent No. 6,697,325. Applicants respectfully submit that Claims 1-5, 9, 11-14 are

patentable over *Cain* because the claims recite at least one feature, step or element that is not found in *Cain*.

For example, Claim 1 recites "receiving information defining one or more shared risk link groups to which the failed link belongs" and using the received information to determine whether each link defined in the link state database is in the one or more shared risk link groups. Furthermore, Claim 1 recites "removing an adjacent node from the link state database for any link that is determined to be in one of the shared risk link groups." These features are not taught or suggested by *Cain*.

The Office action asserts that operation of a link state routing protocol as described by *Cain* anticipates all the features of Claim 1, replying on *Cain* (Col. 2 l. 66-67, Col. 3 l. 1-70 and 50-65). However, the cited passage of *Cain* is merely cumulative to the Background of applicants' specification. *Cain* describes operation of a link state routing protocol in the presence of link or node failures. A similar description of operation of a link state routing protocol is given in applicants' Background section. But applicants are not claiming operation of a link state protocol *per se*.

While *Cain* describes sending out a notice of a link failure, "In the case of a communication link failure, each supporting node sends an LSA protocol message identifying the failed communication link" (*Cain* 1:66-67). *Cain* has no description of shared risk link groups or how to address failure of multiple links that share risk and are grouped. The Office action asserts that in *Cain* the LSA protocol message identifying failed communication links anticipates "shared risk link groups," but this is incorrect. The claim recites a "shared risk link group," which is not the same as a link. For example, multiple links or components can belong to a single shared risk link group, so a failure of the common component can simultaneously

affect multiple resources. *Cain* has no concept of grouping multiple links or working with shared risk link groups as claimed.

Furthermore, claim 1 recites "removing an adjacent node from the link state database for any link that is determined to be in one of the shared risk link groups." According to *Cain,* a link is removed from a topology database if the link is explicitly specified as failed: "When a node receives such an LSA protocol message from a supporting node, the node updates its topology database, specifically by removing the failed communication link from the list of communication links associated with the supporting node, and then computes new routes based upon the updated topology database" (*Cain* 2:1-6). *Cain* does not teach or suggest determining whether the failing link belongs to a shared risk link group, much less "removing an adjacent node from the link state database for any link that is determined to be in one of the shared risk link groups."

For at least these reasons, *Cain* does not anticipate the approach recited in claim 1.

Independent Claim 11 recites the same features discussed above with respect to claim 1. Therefore, claim 11 is allowable over *Cain* for the same reasons given above with respect to claim 1. Reconsideration is respectfully requested.

Each of claims 2-5, 9, and 19 depend from Claim 1 and include all of the features of Claim 1 discussed above by dependency. Each of claims 12-14 depends from Claim 11 and therefore includes all of the features of Claim 11 discussed above by dependency. Accordingly, applicants respectfully submit that Claims 2-5, 9, 12-14, and 19 are patentable over *Cain* for at least the reasons set forth herein with respect to Claim 1 and Claim 11. Reconsideration is respectfully requested.

B.   CLAIMS 5-8, 10, 15-18, 20—CAIN IN VIEW OF BESHAI

Claims 5-8, 10, 15-18, and 20 stand rejected under 35 U.S.C. § 103(a) as allegedly unpatentable over *Cain* in view of *Beshai*, U.S. Patent No. 6,944,131. It is respectfully submitted that Claims 5-8, 10, 15-18, and 20 are patentable over *Cain* and *Beshai*, considered alone or in combination, for at least the reasons provided hereinafter.

Independent Claims 5 and Claim 6 depend from Claim 1. One feature of claim 5 and claim 6 that is not suggested or taught by *Cain* is "receiving information defining one or more shared risk link groups S to which the failed link belongs" as recited in Claim 5 and "receiving information defining one or more shared risk link groups to which the failed link belongs" as recited in Claim 6. Applicants respectfully submit that the feature is also not taught or suggested by *Beshai*, which does not teach or suggest using shared risk link groups.

At best *Beshai* describes receiving a link state change information packet and identifying the affected node based on the link defined in the packet. As stated in *Beshai*, "The method includes receiving link-state-change information related to at least one of the directional links and identifying, from the inverse routing table, an affected node, where the affected node stores a route set including at least one route traversing the at least one of the directional links" (*Beshai* 3:51-57). Link-state-change information according to *Beshai* specifies the failing link explicitly and not the shared resource risk group. Therefore, *Cain* and *Beshai*, considered alone or in combination do not disclose, suggest or teach "receiving information defining one or more shared risk link groups S to which the failed link belongs" as claimed.

Furthermore *Beshai* and *Cain* do not teach or suggest using shared link risk group information in computation of a shortest path first tree. While *Cain* states that Dijksta's shortest path algorithm is used (2:1-14), *Beshai* is silent as to the shortest path is computed. Neither *Cain*

no *Beshai* has any description to modify the computation of the shortest path, much less any description of using shared risk link group information in computation of a shortest path first tree. Therefore, neither *Cain* nor *Beshai* taken independently or properly combined teach or suggest that "during computation of a shortest path first tree, after having added a node X to a path, adding each neighbor Ni of node X to a tentative tree if and only if a link (X, Ni) does not belong to S," as claimed.

For at least the foregoing reasons, claim 5 and claim 6 would not have been obvious to one of ordinary skill in the art at the time the invention was made.

Independent Claim 15 and Claim 16 contain features similar to independent Claim 5 and Claim 6. Therefore, claims 15 and 16 are allowable for the same reasons stated above with respect to claim 5 and claim 6.

Reconsideration is respectfully requested.

III.   CONCLUSION

A petition for an extension of time for two (2) months, and otherwise to the extent necessary to make this reply timely filed, is hereby made under 37 C.F.R 1.136. The extension of time fee is submitted concurrently herewith. If any fee is missing or insufficient, throughout the pendency of this application, the Commissioner is authorized to charge any additional applicable fee to our Deposit Account No. 50-1302.

Respectfully submitted,

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